



Ryan ALM
Asset/Liability Management

RYAN ALM QUARTERLY

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Pension Performance Monitor

Pension Liabilities	YTD (%)
Market (Treasury STRIPS)	19.31
ASC 715 (FAS 158)	12.24
PPA (MAP 21 = 3 Segments)	4.68
PPA (Spot Rates)	14.67
GASB /ASOP (7.50% ROA)	5.63

Pension Assets	
Cash (Ryan Cash Index)	1.03
Bloomberg Barclay Aggregate	6.79
S&P 500	5.57
MSCI EAFE International	-6.69
Asset Allocation Model ¹	5.67

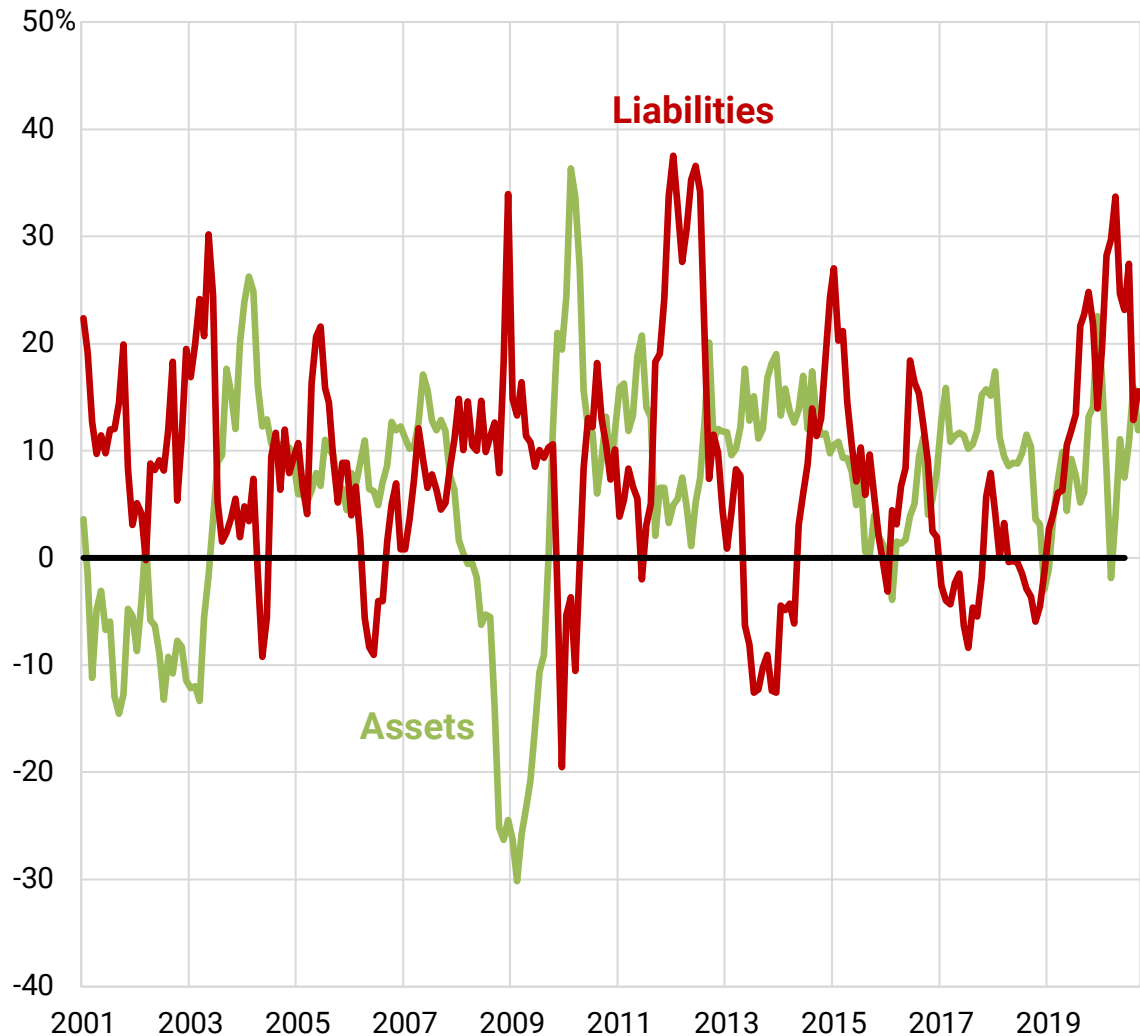
Pension Assets Minus Liabilities	
Market (Treasury STRIPS)	-13.64
ASC 715 (FAS 158)	-6.57
PPA (MAP 21 = 3 Segments)	0.99
PPA (Spot Rates)	-9.00
GASB/ASOP (7.50% ROA)	0.04

Based on the weights of the Asset Allocation Model¹, the difference in pension asset versus liability growth YTD remains a challenge despite a significant equity rally in the middle half of the year. Pensions underperformed most liability discount rate measurements. As we wrote in our last newsletter, falling discount rates (interest rates) have damage the funded status of most pension plans. As a result, greater contributions will likely result in an environment that may not be able to support that need.

1. Model weights are: 5% Ryan Cash, 30% Bloomberg Barclay Aggregate, 60% S&P 500, and 5% MSCI EAFE International

Assets and Liabilities Through Time

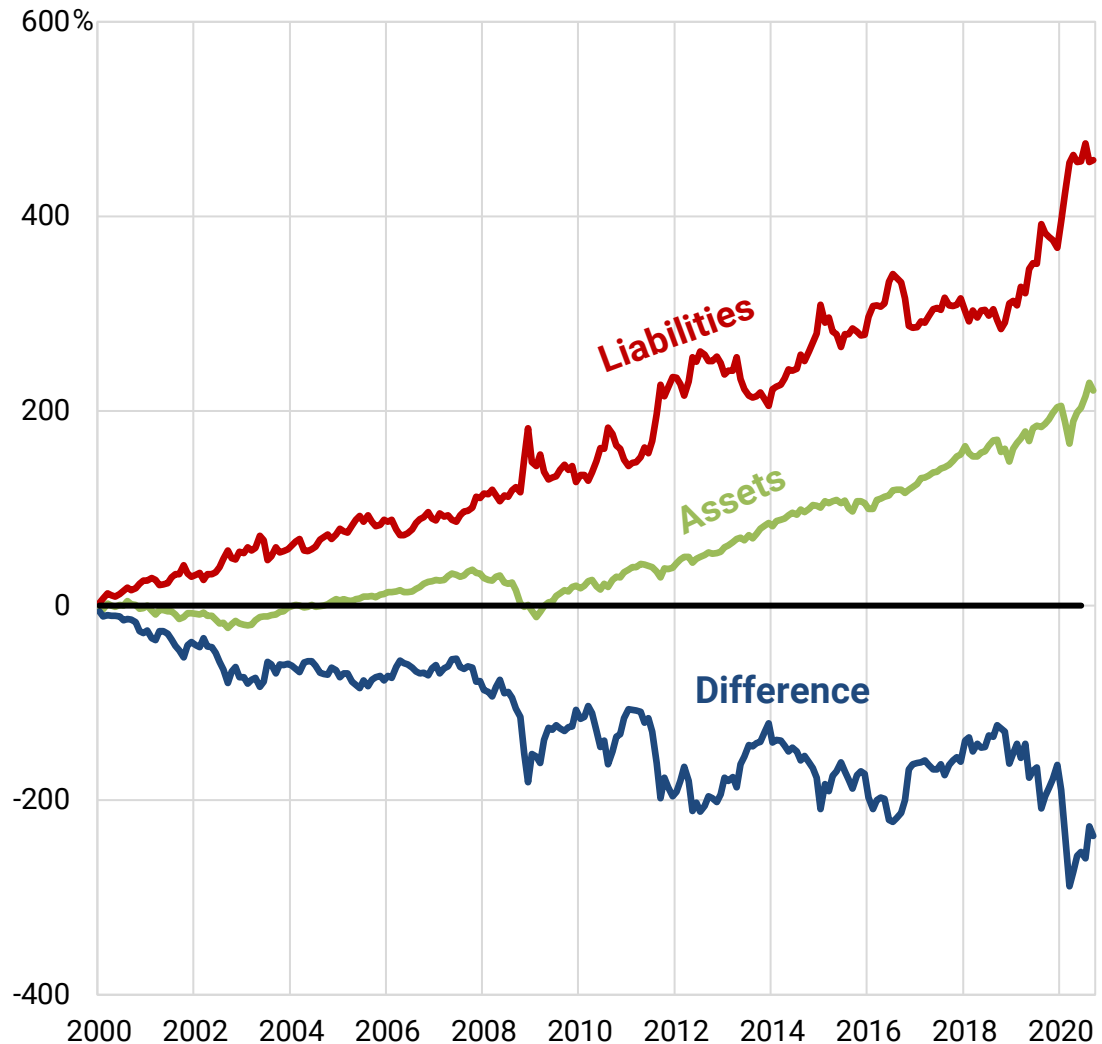
Rolling 12-month asset versus liability growth



Source: Ryan ALM, Inc.

The bull market for equities that lasted more than 10 years did little to help assets versus liability growth, as indicated by the red line in the graph above. While equities were rallying, US fixed income continued one of the longest bull-market runs in history, which began in 1982. Failure to manage plan assets relative to plan liabilities lead to significant volatility in both contribution costs and the funded ratio.

Cumulative returns of assets versus liabilities



Source: Ryan ALM, Inc.

Most pension funds enjoyed a funded ratio surplus in 1999, but pension asset growth has underperformed liability growth (based on Treasury STRIPS discount rate) fairly consistently since then by an estimated -237% on a compound index basis starting at 100 on 12/31/99. Starting at a funded ratio of 100 on 12/31/99, the estimated funded ratio today would be **only 57.5%**! The lack of focus on plan liabilities has led to this deterioration in funding.

Cumulative returns of assets versus liabilities (%)

	Assets	Liabilities	Difference	Cumulative Difference	Funded Ratio
2000	-2.50	25.96	-28.46	-28.46	77.4
2001	-5.40	3.08	-8.48	-37.59	71.0
2002	-11.41	19.47	-30.88	-73.40	52.7
2003	20.04	1.96	18.08	-60.08	62.0
2004	8.92	9.35	-0.43	-66.13	61.8
2005	4.43	8.87	-4.44	-76.75	59.2
2006	12.25	0.81	11.44	-64.60	66.0
2007	6.36	10.99	-4.63	-77.50	63.2
2008	-24.47	33.93	-58.40	-181.57	35.7
2009	15.73	-19.52	35.25	-106.94	52.9
2010	11.89	10.13	1.76	-115.67	53.8
2011	3.27	33.77	-30.50	-195.73	41.5
2012	11.79	4.46	7.33	-194.30	44.4
2013	19.04	-12.59	31.63	-120.74	60.5
2014	9.74	24.35	-14.61	-177.14	53.4
2015	1.22	-0.49	1.71	-172.78	54.3
2016	8.12	1.92	6.20	-163.36	57.6
2017	15.15	7.94	7.21	-160.34	60.9
2018	-2.96	-1.26	-1.70	-162.67	60.4
2019	22.82	13.92	8.90	-163.93	65.0
2020	5.67	19.31	-13.64	-237.01	57.5

Source: Ryan ALM, Inc.

Providing Perspective

Pension Discount Rates: ASC 715 (formerly FAS 158)

At the end of each fiscal year, pension plan sponsors must select a discount rate to use in valuing the liabilities of their pension plan for GAAP accounting purposes. As a result, the choice of discount rates will affect the balance sheet and credit rating. Does it make a difference whose rates you use? [Read here](#)

Where Did My Principal Go?

We are currently engaged in a project for a large city pension plan with >\$3 billion in assets and a funded ratio approaching 20%. The analysis and solutions that we prepared showed that their pension system would be able to meet all future obligations (benefit payments) with significantly reduced contributions of >\$10 billion, a revised return on asset assumption (ROA) of 5.8% (current ROA is 6.75%), and reduced funding costs of the Retired Lives Liability by nearly \$420 million. In addition, this plan would still have roughly \$570 million in assets in 2055. [Read here](#)

It's Just Not Right!

Why do we need pension reform? Here is another example of action being taken by a pension system as it tries to protect what little is left in the pot. The Teamsters' Building Material Drivers Local 436 Pension Fund of Valley View, Ohio, has applied to the Treasury Department for a reduction in benefits under the Multiemployer Pension Reform Act of 2014 (MPRA). Without these cuts, the plan is expected to deplete the fund's assets by 2023. [Read here](#)

It Shouldn't Be the Participants' Responsibility

I wasn't always a fan of pension obligation bonds (POBs), as study after study revealed in most cases that pension plan sponsors that had issued a POB failed to improve the long-term financial viability of the program. The Center for Retirement Research at Boston College has produced a couple of studies related to the success(?) of POBs. Their last update was in July 2014. Their analysis makes some of Steven King's most frightening plots seem like little more than a fairy tale.

[Read here](#)

A Difficult Job Made More Challenging – Part II

On Tuesday I shared with you my thoughts related to the difficult job facing asset consultants in this market environment. Today I share with you a wonderful chart prepared by Callan Associates and extracted from the WSJ (thanks, Chris) that highlights exactly what I was describing. [Read here](#)

No Need for The Volatility

The following graph highlights the fiscal year returns for the Mississippi Public Employees Retirement System. I would hazard a guess that this pattern differs only marginally from the "average" public pension system, since most plans continue to focus on the ROA as the primary objective and they all tend to be 7% and greater. This volatility is neither necessary nor helpful, as it leads to big swings in both the funded status and contribution expenses. [Read here](#)

Latest Thinking

Ryan ALM is engaged in a number of exciting conversations with major public pension systems regarding the appropriateness of using a Pension Obligation Bond (POB) to help close the funding gap, improve liquidity to meet near-term benefit payments and expenses, while also reducing the stress on state and municipal budgets that have been impacted by the disruptive Covid-19 virus.

We are using the implementation that Ron Ryan designed as part of the Butch Lewis Act legislation. As a reminder, that legislation was created to save multiemployer plans designated as in "Critical and Declining" status and those likely to become insolvent within the next 15 years. We are excited about the potential savings and improved funded status that our initial projects have highlighted. Please don't hesitate to reach out to us if you'd like to learn more.

Ryan ALM's mission is to solve liability driven problems through low cost, low risk solutions.

About Ryan ALM, Inc.

Ryan ALM was founded by Ronald J. Ryan, CFA on July 12, 2004 as an Asset/Liability Management firm. The firm builds a turnkey system of proprietary synergistic products designed to measure liabilities as a Custom Liability Index (CLI) and manage assets to the CLI as Liability Beta Portfolios.

Ryan ALM is unique in having its own proprietary Index company named ALM Research Solutions, LLC. This company builds both custom and generic bond indexes. Such indexes range from Custom Liability Indexes to ETF Indexes.

Our Liability Beta Portfolio™ is our proprietary cost optimization model that "cash flow matches" clients projected liability benefit payment schedules at the least cost using investment grade bonds. It is back-tested since 2009 showing a consistent cost savings of 8% to 15%. Our LBP best represents the core portfolio of a pension plan.

Our team has been recognized for our expertise and results including Ron Ryan having won the William F. Sharpe Index Lifetime Achievement Award.



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